

Title (en)  
INJECTOR WITH A DIRECTLY-ACTUATED COMPOUND NOZZLE NEEDLE FOR FUEL INJECTION IN AN INTERNAL COMBUSTION ENGINE

Title (de)  
INJEKTOR MIT EINER DIREKT ANGETRIEBENEN REGISTER-DÜSENNADEL FÜR DIE KRAFTSTOFFEINSPRITZUNG IN EINEN VERBRENNUNGSMOTOR

Title (fr)  
INJECTEUR DOTE D'UN POINTEAU A NIVEAUX A ENTRAINEMENT DIRECT POUR L'INJECTION DE CARBURANT DANS UN MOTEUR A COMBUSTION INTERNE

Publication  
**EP 1563182 B1 20120111 (DE)**

Application  
**EP 03767443 A 20031120**

Priority  
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• DE 10254186 A 20021120

Abstract (en)  
[origin: WO2004046540A1] A piezoelectric injector with a directly-actuated compound nozzle needle (5) for fuel injection in an internal combustion engine is disclosed. Both nozzle needles (15, 17) of the compound nozzle needle (5) are operated for opening the injection holes (16, 19) not as conventionally by means of a fuel pressure generated in the injector or by means of a servo valve, but rather directly by the piezoelectric actuator (3). The actuator (3) can thus advantageously directly control both nozzle needles (15, 17) by means of the amplitude of the control voltage applied thereto. In the inactive state, pressure springs (11; 20, 21) hold the injection holes (16, 19) of both stages closed.

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